STATE OF COLORADO

Bill Owens, Governor
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Dedicated to protecting and improving the health and environment of the people of Colorado

4300 Cherry Creek Dr. S.
Denver, Colorado 80246-1530
Phone (303) 692-2000
TDD Line (303) 691-7700
Located in Glendale, Colorado

Laboratory and Radiation Services Division
8100 Lowry Blvd.
Denver CO 80230-6928
(303) 692-3090

http://www.cdphe.state.co.us

Colorado Department
of Public Health
and Environment

May 23, 2001

Mr. Joseph A. Legare
Assistant Manager for Environment and Infrastructure
U.S. Department of Energy
Rocky Flats Field Office
10808 Highway 93, Unit A
Golden, Colorado 80403-8200

Dear Mr. Legare:

RE: Comments on the Sampling and Analysis Plan for the D&D Groundwater Monitoring of Buildings 881, 991, and 559

1) B881, page 3 –The depth range for this foundation drain system is greater than 10 feet and therefore the range should be included information. Tech Memo #1, 1994 shows the southeast end at 5945 not 5949. There should also be a discussion of the storm drain (SD) and tunnel drain systems, which are located under B881. These also act as foundation drains, with elevations from 5967 to 5963 for the SD and 5954 for the tunnel drain system. The storm drain system is shown to drain to the hillside southeast of B881, formerly sampled as FD-881-4. The tunnel drain system is shown as flowing to a sump inside of B881 and being pumped to the sanitary sewer system, formerly sampled as BS-881-2. Since these systems also may impact the current and future ground water flow and possible contamination migration, they need to be added to this discussion. In addition, sampling of the SD outfall and sump should be considered for inclusion in the monitoring program.

2) B881 Section 2.4 - Since the ground water flow to the east of B881 is so poorly understood, as indicated in Section 2.3, additional monitoring wells may needed to determine the ground water quality flowing into this area from the east.

3) B881, Section 2.5 - The positions of these wells appear to be sufficient to provide the coverage needed for this D&D monitoring based on the information provided. We are concerned that re-grading activities may impact proposed well 80101.

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6) B991, Section 3.4 - The current ground water flow needs to be considered when deciding on D&D monitoring well locations. This is partly because of the uncertainly of future ground water flow directions. Currently the flow from some of the foundation drains and storm drains as well as the ground water flow appears to be to the south as well as to the east. To the southwest of the building head contours are drawn through the surface water feature (the South Walnut Creek diversion?) this would indicate ground water from the south is upgradient to the building. As discussed, there is a lack of actual well information with which to properly demonstrate the ground water flow directions around this building. A monitoring well needs to be placed south of B991which can be designated upgradient or downgradient after the local water table is mapped.

In the response to our comments on the 1999 Annual RFCA Groundwater Monitoring Report a foundation drain running north/south along the west side of B991 is reported as abandoned. How was this drain abandoned? Might it still be in place to impact ground water flow?

In addition, there may be an Arapahoe sand channel trending to the northeast under B991. Wells 24095 and 24295, which might provide information on this trend, do not appear to have well logs in the updated version of the Equis database. Wells 80501 and 80601 should be drilled into bedrock deep enough to investigate the possibility of a subcropping sandstone lense.

7) B991, Section 3.5 - As indicated in Section 3.4, these locations do not necessarily monitor the tunnels or vaults, and additional wells may be necessary based on the results of future investigations, such as the RLCR. The proposed "upgradient locations" are downgradient to the vaults and tunnels. As such, these wells may in fact see contaminants coming from these areas of B991, and may not actually be upgradient wells to the B991 complex.

8) B559, Section 4.3, page 29 – Although the drain on the east side of the building has been removed Tech Memo #1 also indicates that the sump pit previously discharged to a foundation/storm drain that ran along the south side of B559 and discharged to the west/northwest. The depths and possibility for groundwater migration along this drain also needs to be considered. Sanitary drains in the vicinity of B559 are below the top of bedrock and should be recognized as a possible interference with ground water levels and flow, as well as having historically been a potential source of ground water in this area.

9) B559, Section 4.5 - The D&D monitoring wells as proposed appear to be located appropriately, based on the limited data available. Due to the limited information in the immediate vicinity of B559, additional monitoring wells may need to be installed based on acquisition of additional information. The top of bedrock appears to slope to the northwest under B559, which indicates that the ground water associated with this building may flow to the northwest, toward the "unnamed tributary". Another monitoring well may need to be placed at the northwest corner of B559 to properly intercept ground water flowing from this building.

10) Section 7.3 – Nitrates should be included in the analyte list for the B991 wells.

11) Section 12 - The Asphalt and Soil Management RSOP has not been approved. As such, the referenced procedure may not be applicable, and an appropriate procedure should be provided.

Should your staff have questions about these comments please contact Elizabeth Pottorff at 303-692-3429.

Sincerely,

Steven H. Gunderson
Rocky Flats Project Coordinator

SHG/ETP/etp

cc: Tim Rehder, EPA
Norma Castañeda, DOE
Bob Nininger, KH
Steve Singer, RMRS
Administrative Records, Building 850

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